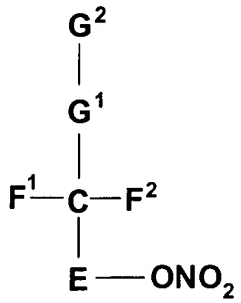
AMENDMENTS

Kindly amend the claims as follows:

Claims 1 – 10 (Cancelled)

11. (Previously presented) A method for providing sedation, mitigating anxiety or providing anaesthesia in a subject in need thereof, comprising administering to the subject an effective amount of a therapeutic compound, wherein said therapeutic compound is of the formula (Ia):

(Ia) 

, in which

F^2 is a nitrate group or an organic radical which may be joined in a cyclic ring system with G^2, and which may contain inorganic counterions;

E is a methylene group;

G^1 is a methylene group or does not exist;

F^1 is H; and

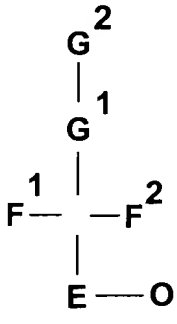
G^2 is R^N-Z^N; wherein R^N is an organic radical possessing a heteroaryl group containing a P or S atom, where said P or S is positioned β, γ, or δ to a nitrate group; and Z^N is W^N_{mm}-X^N_{nn}-Y^N_{oo}; wherein

mm, nn, oo are 0 or 1 and W^N, X^N, Y^N are NH, NR^{NN}, CO, O, or CH_2; wherein

R^{NN} is a $C_1 - C_{12}$ alkyl group.

12. (Cancelled)

13 (Previously presented) A method for providing sedation, mitigating anxiety or providing anaesthesia in a subject in need thereof, comprising administering to said subject an effective amount of a therapeutic compound, wherein said therapeutic compound is of the formula (Ic):



(Ic), in which

E is $(R^1R^2C)_m$ and $G^2–G^1–CF^1F^2–$ is $R^{19}–(R^3R^4C)_p–(R^{17}R^{18}C)_n–$; wherein each of m, n, and p is an integer from 0 to 10;

$R^{3,17}$ are each independently hydrogen, a nitrate group, or A; and

$R^{1,4}$ are each independently hydrogen, or A;

where A is selected from a substituted or unsubstituted aliphatic group comprising a branched or straight-chain aliphatic moiety having from 1 to 24 carbon atoms in the chain, which optionally may contain O, S, NR^6, or an unsaturation in the chain, optionally bearing from 1 to 4 hydroxy, nitrate, amino, aryl, or heterocyclic groups; an unsubstituted or substituted cyclic aliphatic moiety having from 3 to 7 carbon atoms in the aliphatic ring, which optionally may contain O, S, NR^6, or an unsaturation in the ring, optionally bearing from 1 to 4 hydroxy, nitrate, amino, aryl, or heterocyclic groups; an unsubstituted or substituted aliphatic moiety constituting a linkage of from 0 to 5 carbons, between R^1 and R^3 and/or between R^{17} and R^4, which optionally may contain O, S, NR^6, or an unsaturation in the linkage, and optionally bearing from 1 to 4 hydroxy, nitrate, amino, aryl, or heterocyclic groups; a substituted or unsubstituted aliphatic group comprising a branched, cyclic or straight-chain aliphatic moiety having from 1 to 24 carbon atoms in

the chain, containing linkages selected from the group consisting of C=O, C=S, and C=NOH, which optionally may contain O, S, NR^6, or an unsaturation in the chain, optionally bearing from 1 to 4 hydroxy, nitrate, amino, aryl, or heterocyclic groups; a substituted or unsubstituted aryl group; a substituted or unsubstituted heterocyclic group; an amino group selected from alkylamino, dialkylamino, cyclic amino, diamino, triamino, arylamino, diarylamino, and alkylarylamino moieties; hydroxy; alkoxy; and a substituted or unsubstituted aryloxy; wherein

X is F, Br, Cl, NO_2, CH_2, CF_2, O, NH, NMe, CN, NHOH, N_2H_3, $N_2H_2R^{13}$, $N_2HR^{13}R^{14}$, N_3, S, SCN, $SCN_2H_2(R^{15})_2$, $SCN_2H_3(R^{15})$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, PO_2HM, PO_3HM, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, $P(O)(R^{15})(OR^8)$, $P(O)(OM)R^{15}$, CO_2M, CO_2H, CO_2R^{11}, C(O), $C(O)R^{12}$, $C(O)(OR^{13})$, PO_2H, PO_2M, $P(O)(OR^{14})$, $P(O)(R^{13})$, SO, SO_2, $C(O)(SR^{13})$, SR^5, SSR^7 or SSR^5;

Y is F, Br, Cl, CH_3, CF_2H, CF_3, OH, NH_2, NHR^6, NR^6R^7, CN, NHOH, N_2H_3, $N_2H_2R^{13}$, $N_2HR^{13}R^{14}$, N_3, S, SCN, $SCN_2H_2(R^{15})_2$, $SCN_2H_3(R^{15})$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, PO_2HM, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, $P(O)(R^{15})(OR^8)$, $P(O)(OM)R^{15}$, CO_2M, CO_2H, CO_2R^{11}, $C(O)R^{12}$, $C(O)(OR^{13})$, $C(O)(SR^{13})$, SR^5, SSR^7 or SSR^5, or does not exist;

each of R^2, R^5, R^{18}, and R^{19} is, independently, hydrogen, A, or X-Y;

each of R^6, R^7, R^8, R^9, R^{11}, R^{12}, R^{13}, R^{14}, R^{15}, R^{16} is, independently, an alkyl or acyl group containing 1-24 carbon atoms, which may contain 1-4 ONO_2 substituents; a C_1 - C_6 connection to R^1 – R^4 in a cyclic derivative, which may contain 1-4 ONO_2 substituents; a hydrogen, a nitrate group, or A;

M is H, Na^+, K^+, NH_4^+, or $N^+H_kR^{11}_{(4-k)}$, where k is 0-3; or other pharmaceutically acceptable counterion;

and with the proviso that when m = n = p = 1 and R^{19}, R^2, R^{18}, R^1 = H and R^{17}, R^3 are nitrate groups, R^4 is not H.

14. (Previously presented) The method of claim 11, wherein F^2 is a nitrate group; with the proviso that when E and G^1 are methylene groups and F^1 is H, G^2 is not R^N-Z^N; wherein

R^N is any aryl or heteroaryl group and Z^N is $(CO)_{mm}$-$X^N{}_{nn}$-$Y^N{}_{oo}$; wherein

mm, nn, oo are 0 or 1 and X^N,Y^N are NH, NR^{NN}, O or CH_2; wherein

R^{NN} is a $C_1 - C_{12}$ alkyl group.

15. (Previously presented) The method of claim 11, wherein F^2 is a nitrate group; E and G^1 are methylene groups; F^1 is H; and G^2 is R^N-Z^N; wherein

R^N is an organic radical possessing an heteroaryl group containing P or S atoms where said P or S are positioned β, γ, or δ to a nitrate group as identified in formula Ia; and Z^N is $W^N{}_{mm}$-$X^N{}_{nn}$-$Y^N{}_{oo}$; wherein

mm, nn, oo are 0 or 1 and W^N, X^N, Y^N are NH, NR^{NN}, CO, O or CH_2; wherein

R^{NN} is a $C_1 - C_{12}$ alkyl group.

16. (Original) The method of claim 13, wherein R^{19} is X-Y.

17. (Previously presented) The method of claim 16, wherein:

R^1 and R^3 are the same or different and selected from H and C_1-C_4, alkyl chains, which chains may include one O linking R^1 and R^3 to form pentosyl, hexosyl, cyclopentyl, or cyclohexyl rings, which rings may optionally bear hydroxyl substituents;

R^2 and R^4 are the same or different and selected from H, a nitrate group, a C_1-C_4 alkyl chain, optionally bearing 1-3 nitrate groups, and an acyl group (-C(O)R^5);

R^7 and R^{11} are the same or different $C_1 - C_8$ alkyl or $C_1 - C_8$ acyl;

each of R^5, R^6, R^8, R^9, R^{12}, R^{13}, R^{14}, R^{15}, R^{16} is, independently, an alkyl group containing 1-12 carbon atoms, which may contain 1-4 ONO_2 substituents; or a C_1 or C_2

connection to R^1 - R^3 in a cyclic derivative; and

M is H, Na^+, K^+, NH_4^+ or $N^+H_kR^{11}{}_{(4-k)}$, where k is 0-3.

18. (Original) The method of claim 17, wherein m = 1, n = 0, p=1.

19. (Previously presented) The method of claim 18, wherein:

X is CH_2, O, NH, NMe, CN, NHOH, N_2H_3, $N_2H_2R^{13}$, $N_2HR^{13}R^{14}$, N_3, S, SCN, $SCN_2H_2(R^{15})_2$, $SCN_2H_3(R^{15})$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, PO_3HM, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, $P(O)(R^{15})(OR^8)$, $P(O)(OM)R^{15}$, CO_2M, CO_2H, CO_2R^{11}, C(O), $C(O)R^{12}$, $C(O)(OR^{13})$, PO_2M, $P(O)(OR^{14})$, $P(O)(R^{13})$, SO, SO_2, $C(O)(SR^{13})$, or SSR^5; and

Y is CN, $N_2H_2R^{13}$, $N_2HR^{13}R^{14}$, N_3, SCN, $SCN_2H_2(R^{15})_2$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SR^4, SO_2M, PO_3HM, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, $P(O)(R^{15})(OR^8)$, $P(O)(OM)R^{15}$, CO_2M, CO_2H, CO_2R^{11}, $C(O)R^{12}$, $C(O)(SR^{13})$, SR^5, or SSR^5, or does not exist.

20. (Previously presented) The method of claim 18, wherein:

each of R^5, R^6, R^8, R^9, R^{12}, R^{13}, R^{14}, R^{15}, R^{16} is, independently, an alkyl group containing 1-12 carbon atoms, which may contain 1-4 ONO_2 substituents; or a C_1 or C_2 connection to R^1 - R^3 in a cyclic derivative

X is CH_2, O, NH, NMe, S, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, $P(O)(R^{15})(OR^8)$, PO_3HM or $P(O)(OM)R^{15}$; and

Y is SO_2M, SO_3M, PO_3HM, PO_3M_2, $P(O)(OR^{15})(OR^{16})$, $P(O)(OR^{16})(OM)$, SR^5, SSR^7 or SSR^5, or does not exist.

21. (Cancelled)

22. (Original) The method of claim 13, with the proviso that when m = n = p = 1 and R^{19}, R^2, R^{18}, R^1 = H and R^{17}, R^3 are nitrate groups, R^4 is not $C_1 - C_3$ alkyl.

23. (Cancelled)

24. (Previously presented) The method of any one of claims 11, 13, 14 or 15, further comprising administering said therapeutic compound with a pharmaceutically acceptable vehicle.

25. (Cancelled)

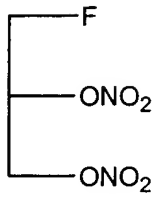
26. (Previously presented) The method of any one of claims 11, 13, 14, or 15, wherein said therapeutic compound modulates levels of the cyclic nucleotides cGMP and/or cAMP in said subject.

27. (Cancelled)

28. (Previously presented) The method of any one of claims 11, 13, 14, or 15, wherein said therapeutic compound modulates guanylyl cyclase activity in said subject.

Claims 29-32 (Cancelled)

33. (Previously presented) A method of providing sedation or mitigating anxiety in a subject in need thereof, comprising administering to the subject an effective amount of a therapeutic compound selected from the group consisting of:



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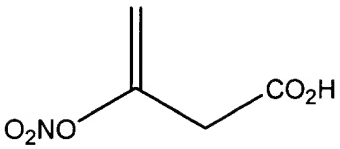

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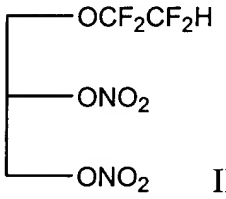

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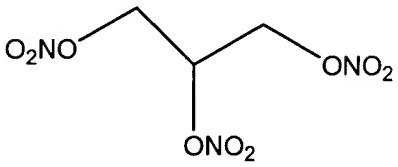

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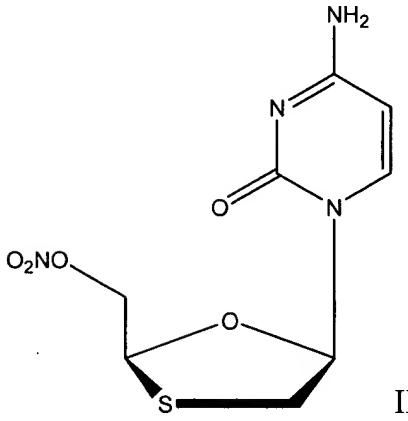

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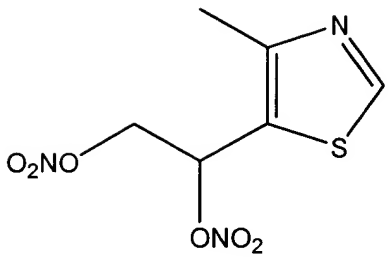

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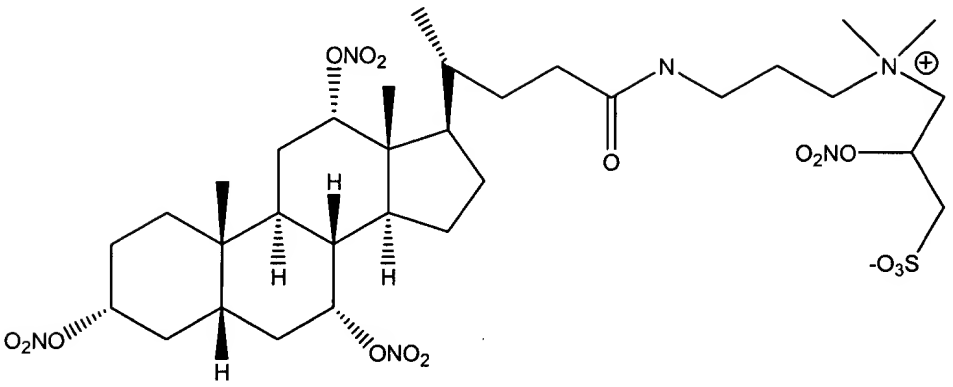

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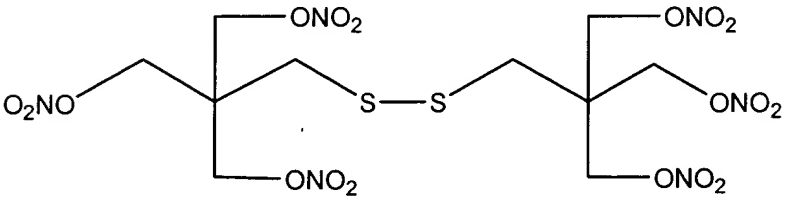

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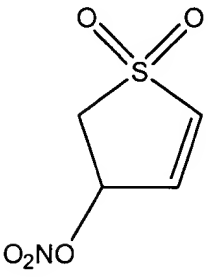

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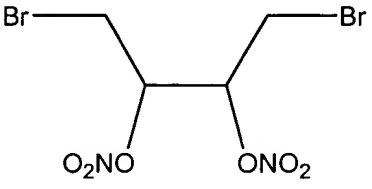

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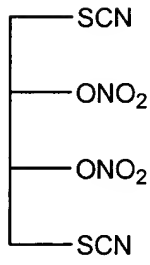

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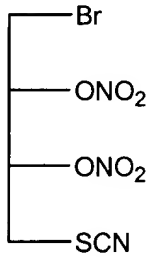

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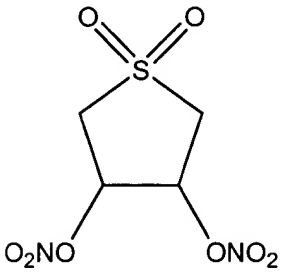

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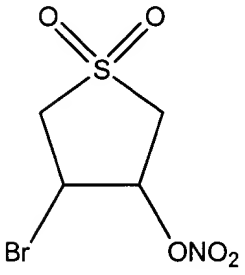

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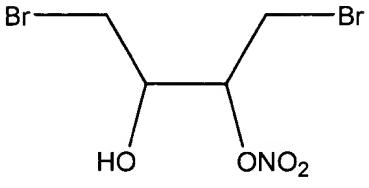

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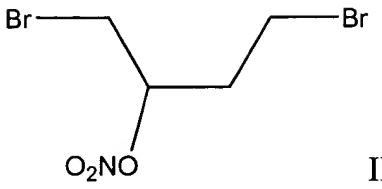

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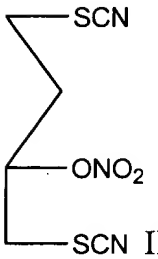

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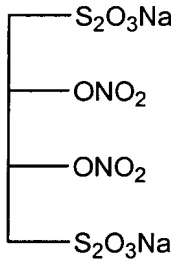

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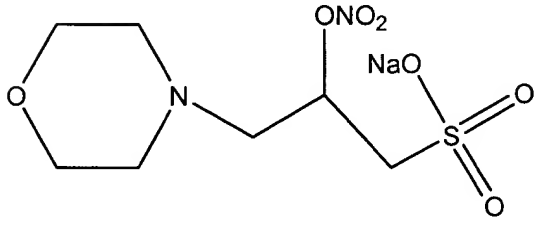

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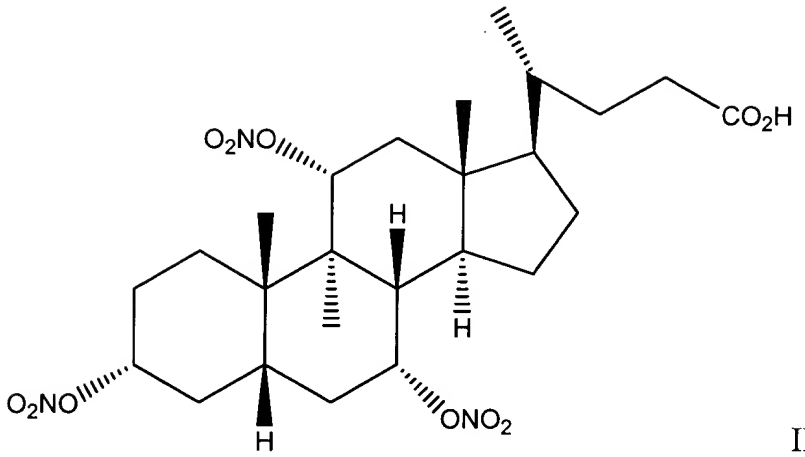

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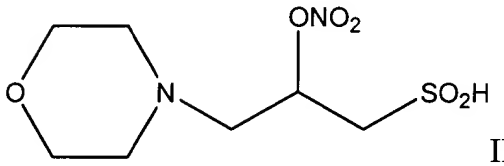

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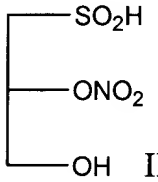

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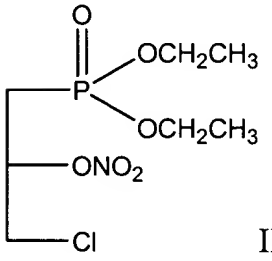

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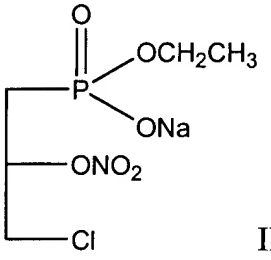

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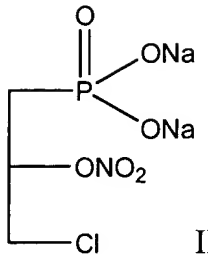

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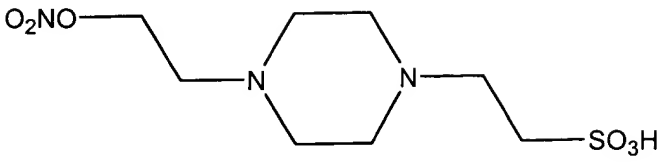

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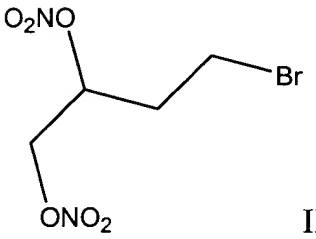

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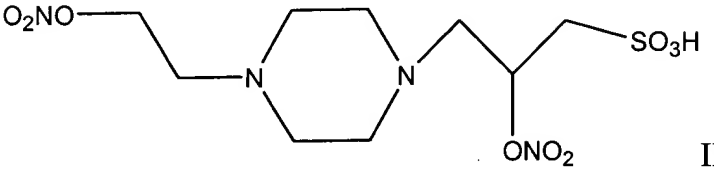

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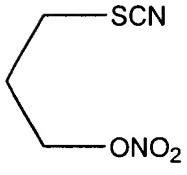

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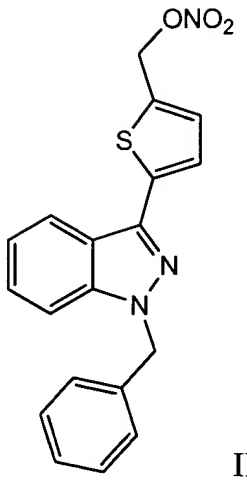

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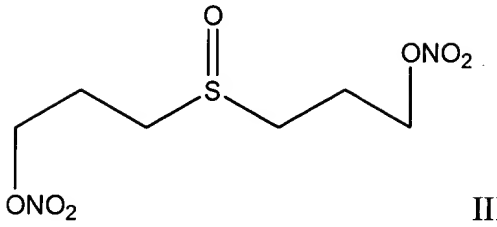
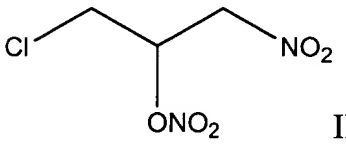


IIIae,



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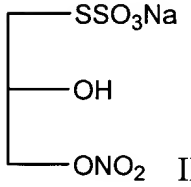
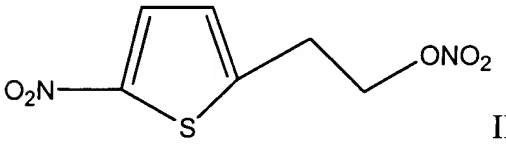
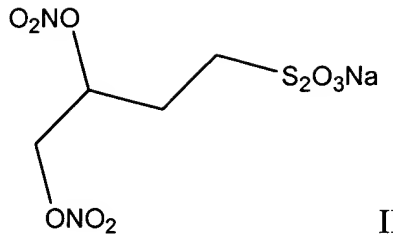


IIIag,



IIIah,



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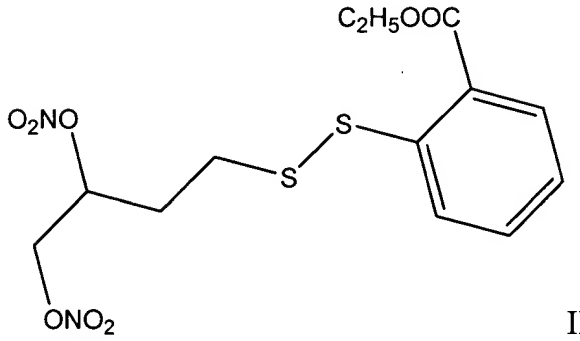
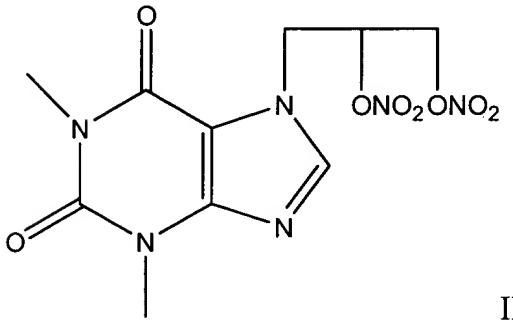
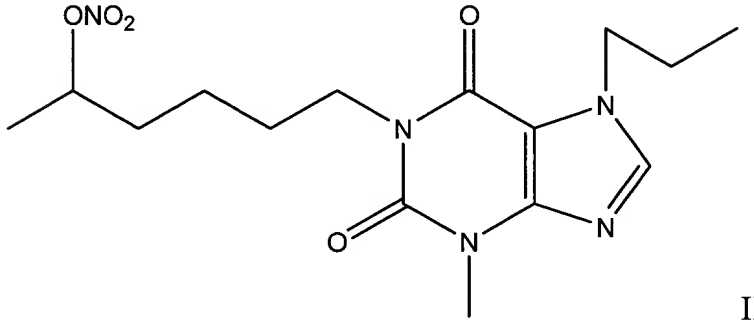


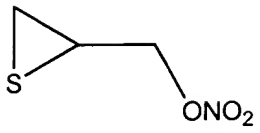
IIIaj,



IIIak,

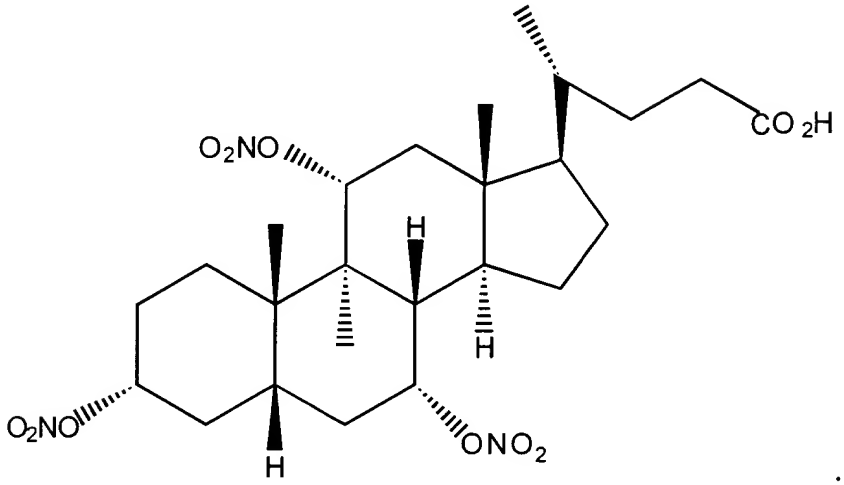


IIIal, and

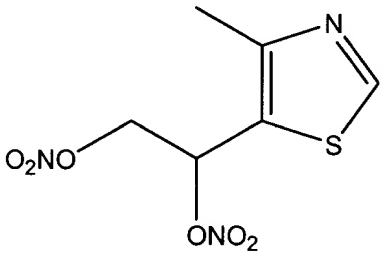


IIIam.

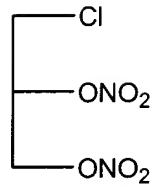
34. (Previously presented) The method of claim 33, wherein said compound has the formula IIIt:



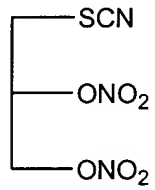
35. (Previously presented) The method of claim 33, wherein said compound has the formula IIIf:



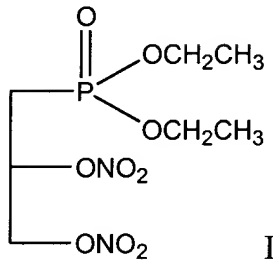
36. (Previously presented) A method of providing sedation or mitigating anxiety in a subject in need thereof, comprising administering to said subject an effective amount of a therapeutic compound selected from the group consisting of:



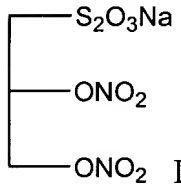
IVa,



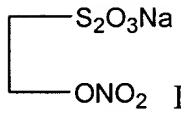
IVb,



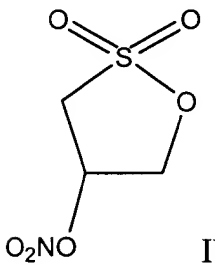
IVc,



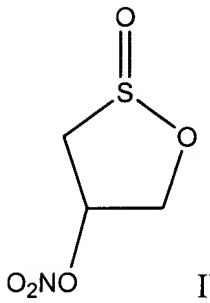
IVd,



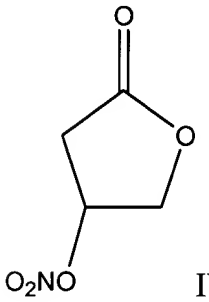
IVe,



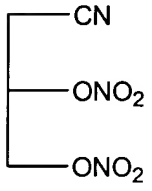
IVf,



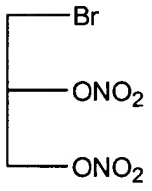
IVg,



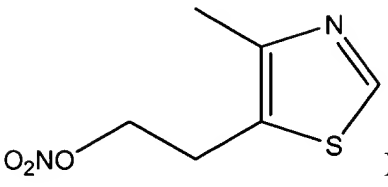
IVh,



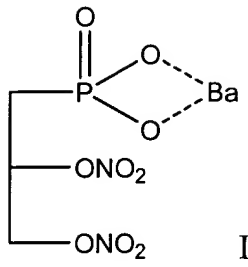
IVi,



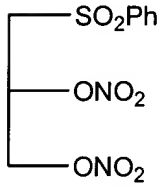
IVj,



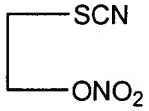
IVk,



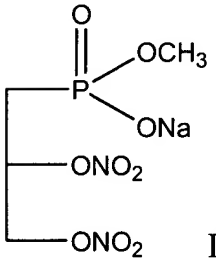
IVl,



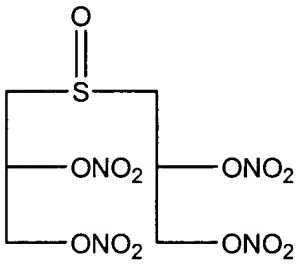
IVm,



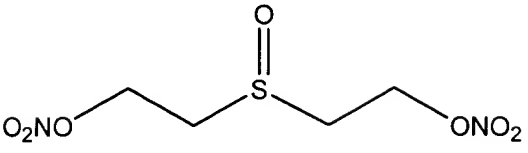
IVn,



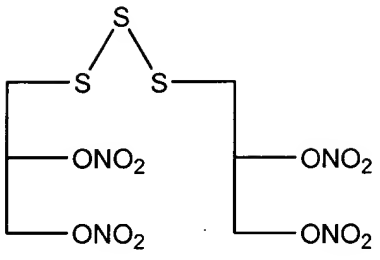
IVo,



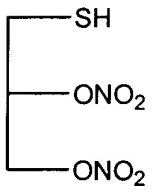
IVp,



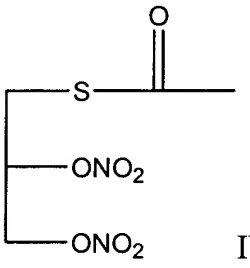
IVq,



IVr,

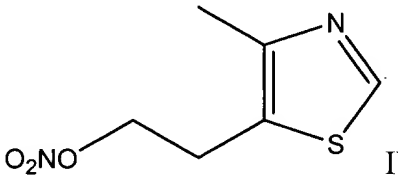


IVs, and



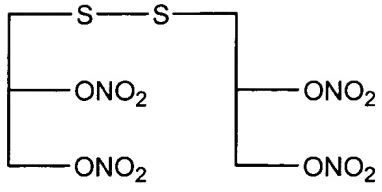
IVt.

37. (Previously presented) A method of providing sedation in a subject in need thereof, comprising administering to said subject an effective amount of a therapeutic compound having the formula IVk:

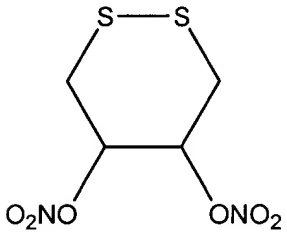


IVk.

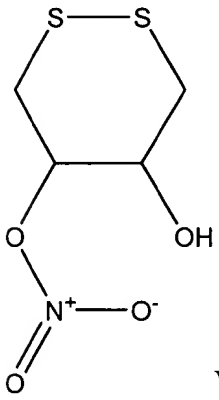
38. (Previously presented) A method of mitigating anxiety in a subject in need thereof, comprising administering to the subject an effective amount of a therapeutic compound selected from the group consisting of:


S—S
ONO2
ONO2
ONO2
ONO2

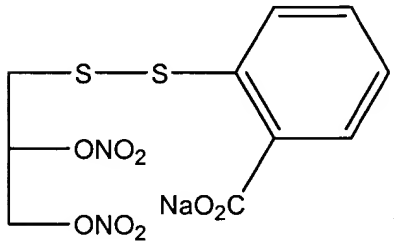
Va,


S—S
O2NO
ONO2

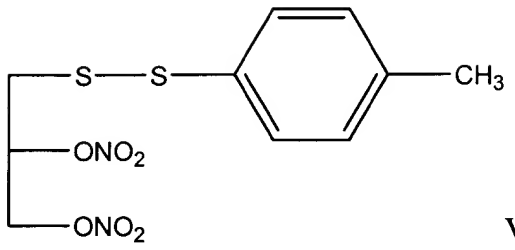
Vb,


S—S
O
OH
N+—O-
O

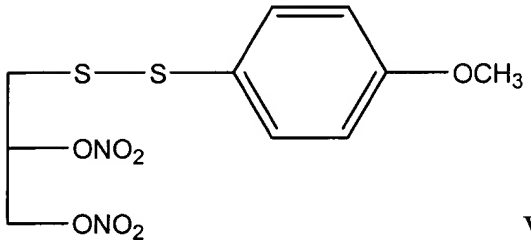
Vc,


S—S
ONO2
ONO2
NaO2C

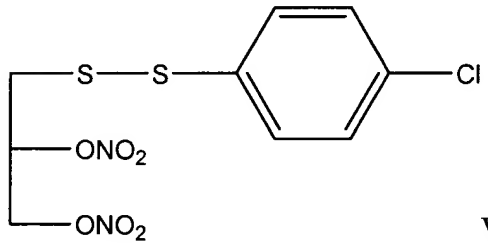
Vd,


S
S
CH3
ONO2
ONO2

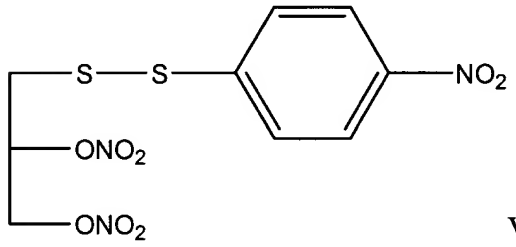
Ve,


S
S
OCH3
ONO2
ONO2

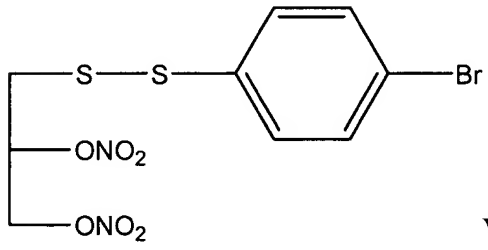
Vf,


S
S
Cl
ONO2
ONO2

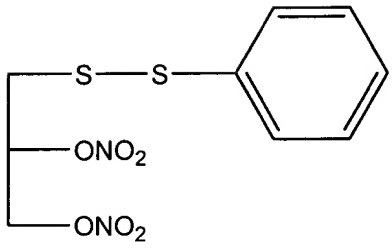
Vg,


S
S
NO2
ONO2
ONO2

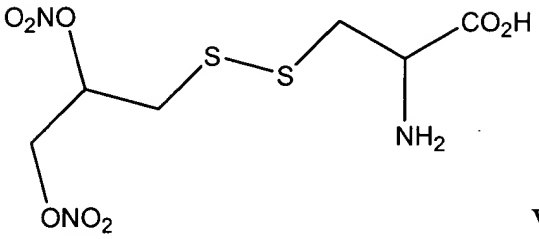
Vh,


S
S
Br
ONO2
ONO2

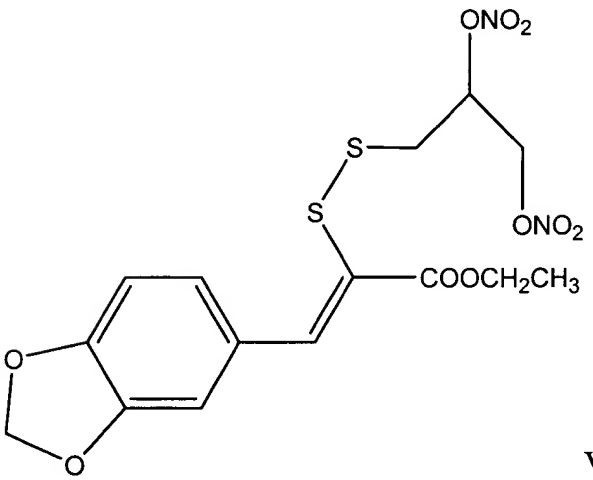
Vi,


S
S
ONO2
ONO2

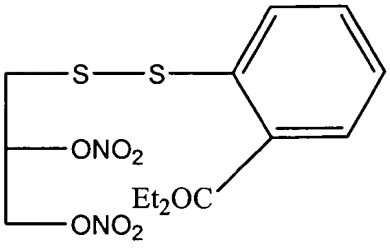
Vj,


O2NO
S
S
CO2H
NH2
ONO2

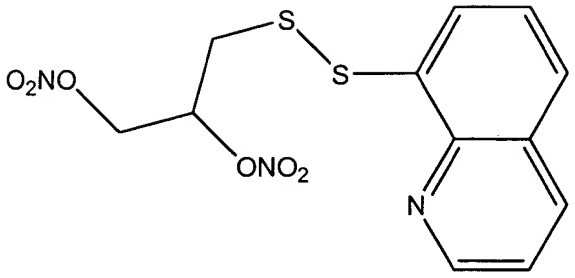
Vk,


ONO2
S
S
ONO2
COOCH2CH3
O
O

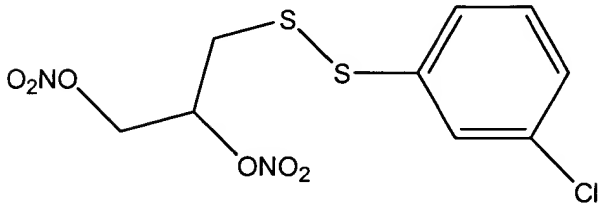
Vl,


S
S
ONO2
Et2OC
ONO2

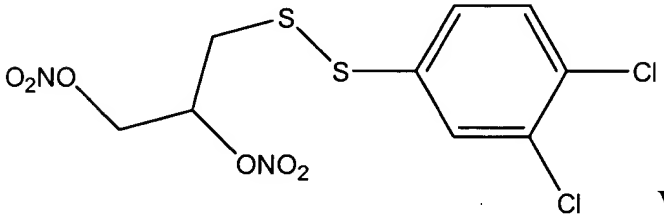
Vm,



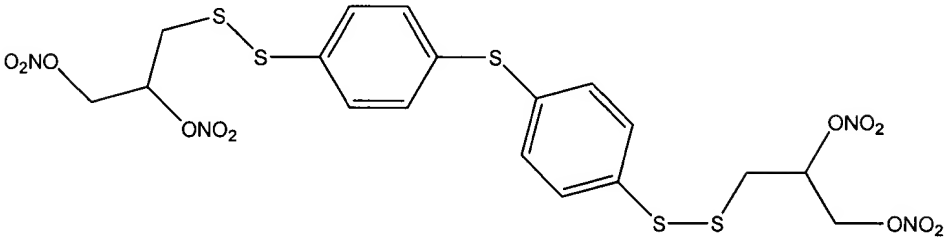
Vn,



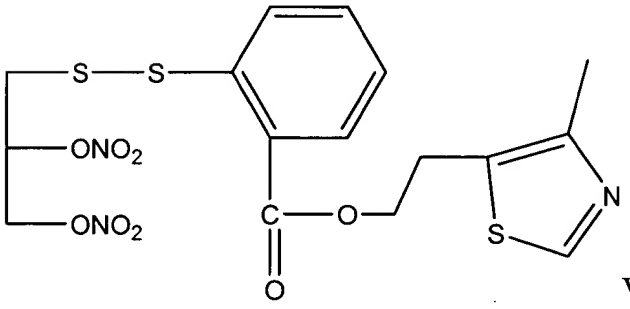
Vo,



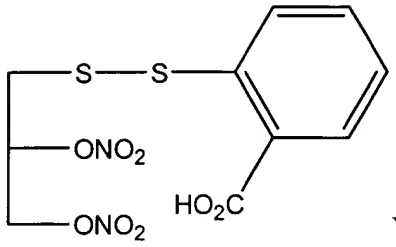
Vp,



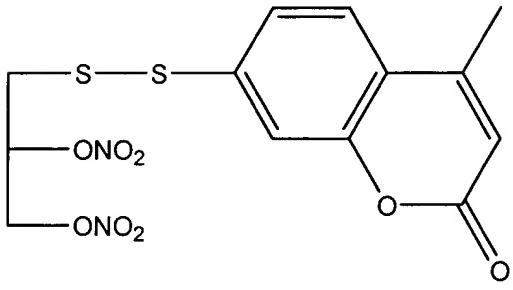
Vq,



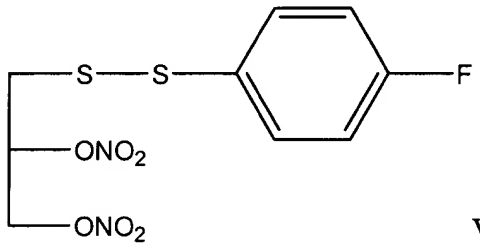
Vr,


S
S
ONO2
HO2C
ONO2

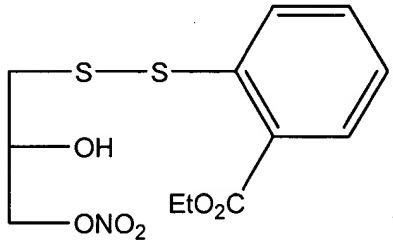
Vs,


S
S
ONO2
ONO2
O
O

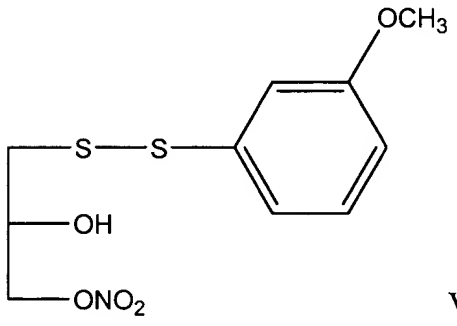
Vt,


S
S
F
ONO2
ONO2

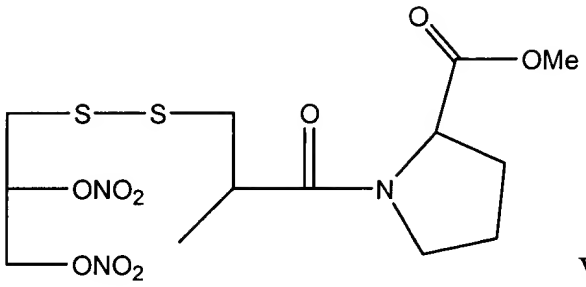
Vu,


S
S
OH
EtO2C
ONO2

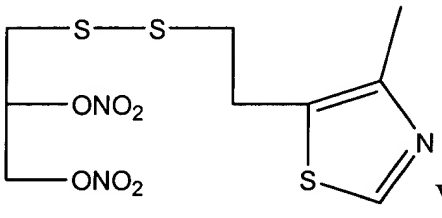
Vv,


OCH3
S
S
OH
ONO2

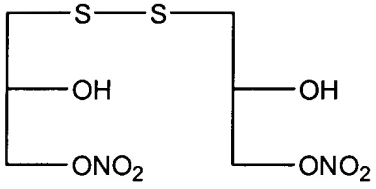
Vw,



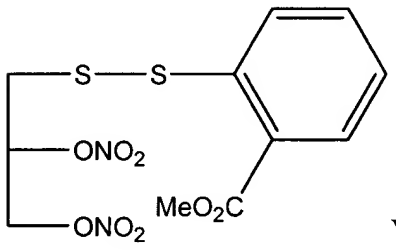
Vx,



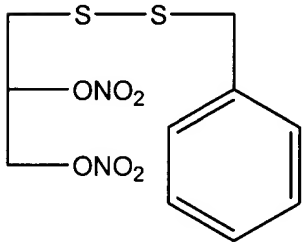
Vy,



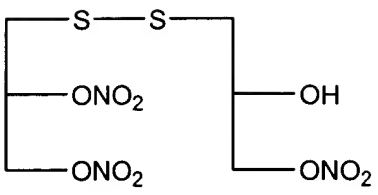
Vz,



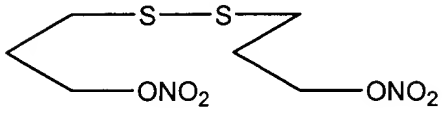
Vaa,



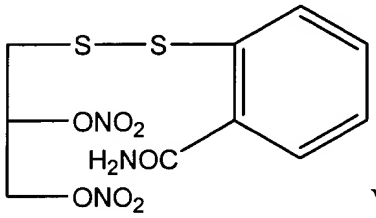
Vab,



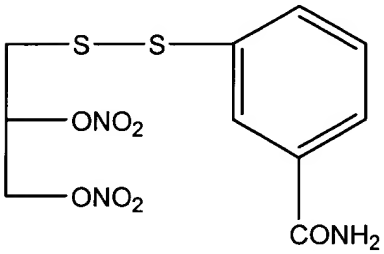
Vac,



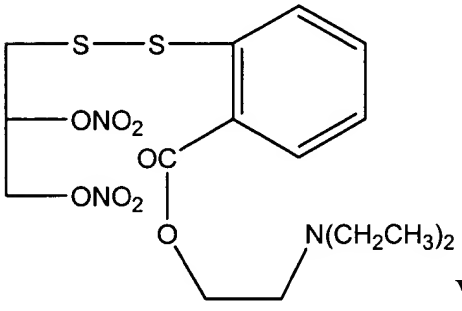
Vad,



Vae,

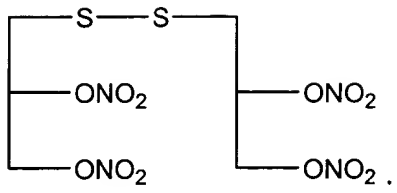


Vaf, and

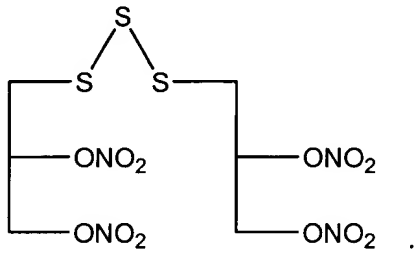


Vag.

39. (Previously presented) The method of claim 38, wherein said compound has the formula Va:



40. (Previously presented) A method of mitigating anxiety in a subject in need thereof, comprising administering to said subject an effective amount of a therapeutic compound having the formula IVr:



41. (Previously presented) The method of claim 11, wherein

G^2 is not R^N-Z^N; wherein

R^N is any aryl or heteroaryl group and Z^N is $(CO)_{mm}$-$X^N{}_{nn}$-$Y^N{}_{oo}$; wherein mm, nn, oo are 0 or 1 and X^N,Y^N are NH, NR^{NN}, O or CH_2; wherein

R^{NN} is a $C_1 - C_{12}$ alkyl group.

42. (Cancelled)

43. (Currently amended) The method of claim 16, wherein ~~X and/or Y contains a sulfur-containing functional group~~

X is CH_2, CF_2, O, NH, NMe, S, SCN, $SCN_2H_2(R^{15})_2$, $SCN_2H_3(R^{15})$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, C(O), SO, SO_2, $C(O)(SR^{13})$, SR^5, SSR^7 or SSR^5; and

Y is SCN, $SCN_2H_2(R^{15})_2$, $SCN_2H_3(R^{15})$, $SC(O)N(R^{15})_2$, $SC(O)NHR^{15}$, SO_3M, SH, SR^7, SO_2M, $S(O)R^8$, $S(O)_2R^9$, $S(O)OR^8$, $S(O)_2OR^9$, $C(O)(SR^{13})$, SR^5, SSR^7 or SSR^5, or does not exist.